

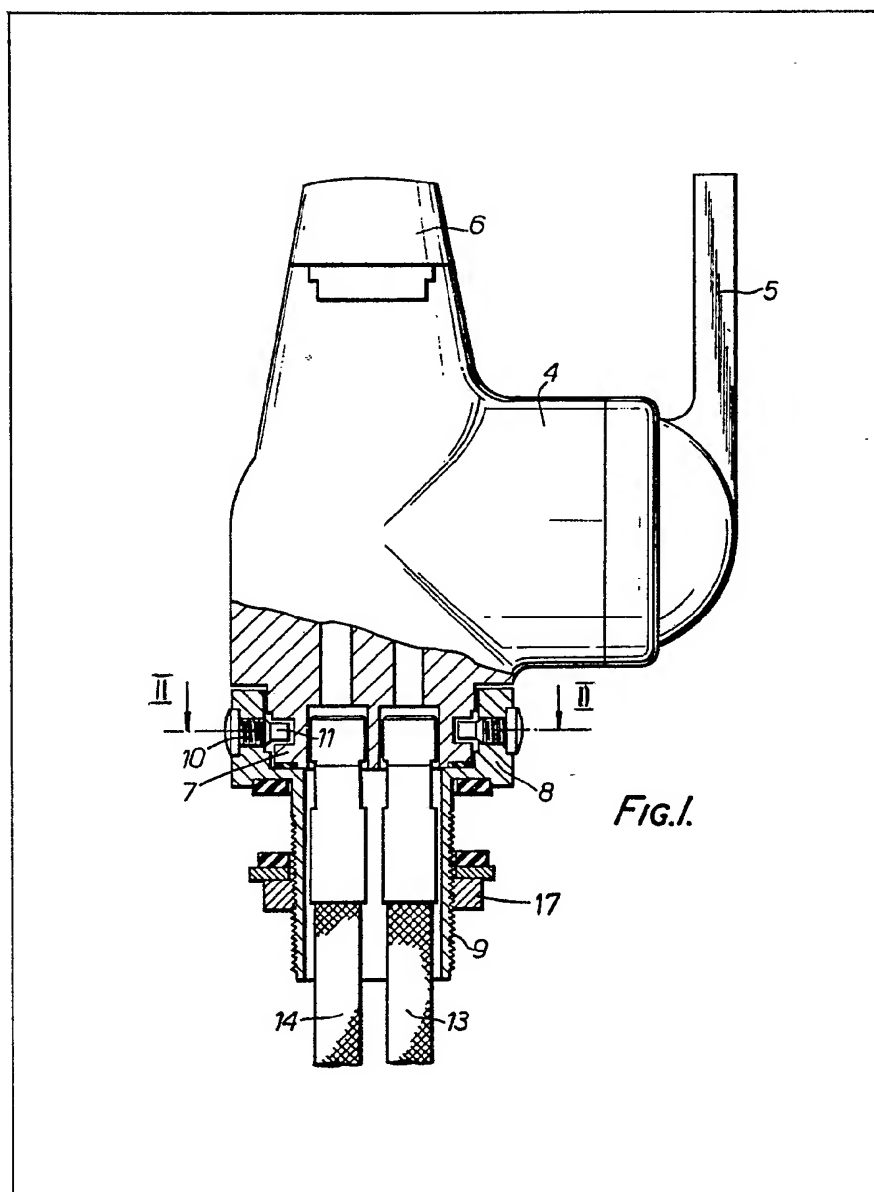
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(54) **Water tap with swivelling outlet**

(57) The spout 6 is swivellable by arranging the valve body 4 on which it is carried to be mounted rotatably on a base 8 fixed to a sink or washbasin. The rotatable mounting is not contacted by the water and therefore requires no seals. The base is tubular

and the water connection lines are flexible pipes 13, 14 which pass through the base and are connected to the valve body. Screws 10 adjust the force required to rotate the valve body to be greater than the force required to actuate the valve operating handle 5. The spout is preferably integral with the valve body.



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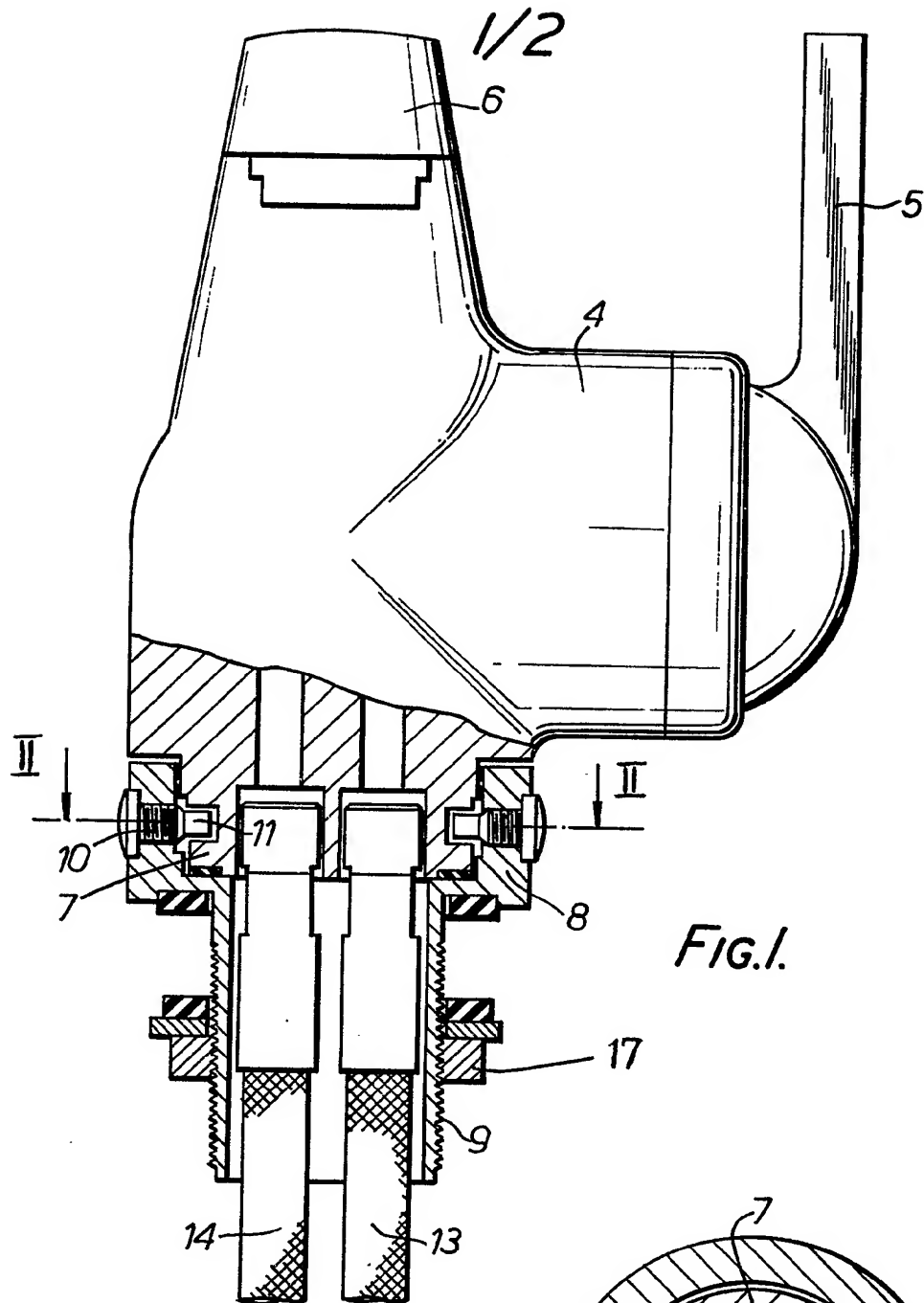


FIG. 1.

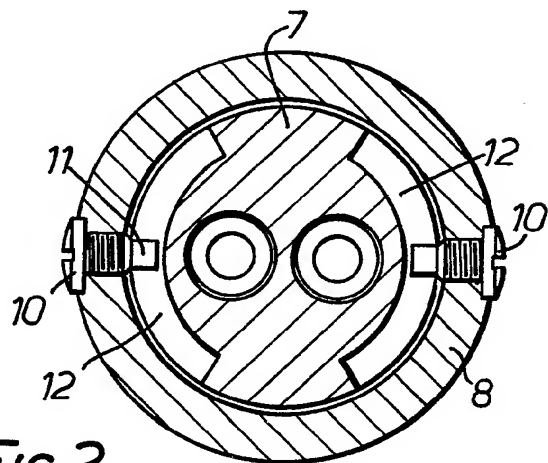


FIG. 2.

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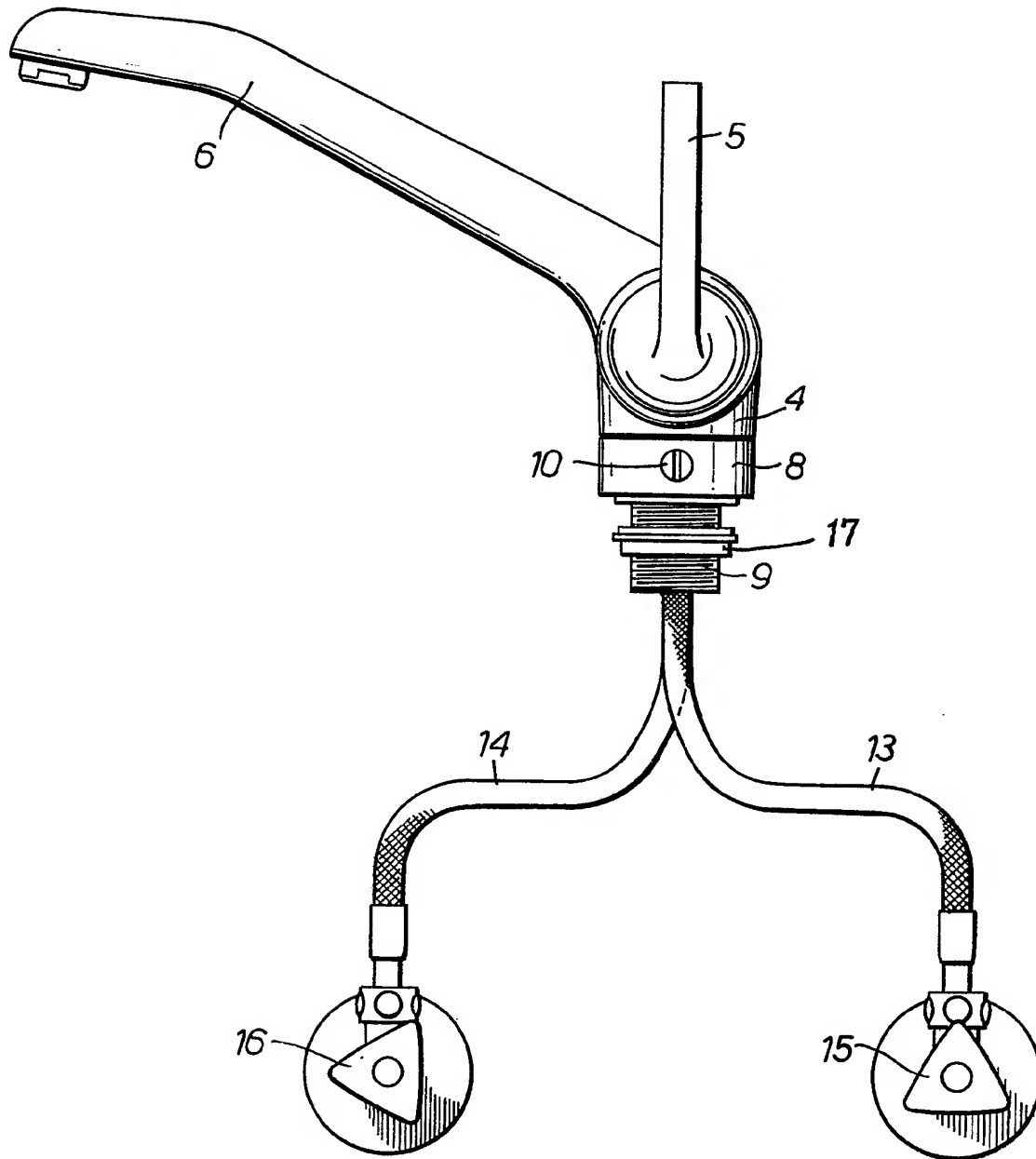


FIG. 3.

SPECIFICATION

Sanitary water fitting with swivelling outlet

This invention relates to a sanitary water fitting with an outlet which can be swivelled, that is, moved around an arcuate path, and is particularly although not exclusively applicable to a sanitary water fitting for a kitchen sink or a washbasin.

In the manufacture of sanitary water fittings, it has been the practice to design a fitting for a kitchen sink or washbasin so that the spout swivels relative to the valve body. One disadvantage encountered by such a design is that where the spout is connected to the valve body it must be rotatably coupled and it therefore requires a water tight seal. This seal is generally accomplished by use of O-rings, lubricants, etc.; however, they are subject to wear or the lubricant is lost through the joint connection. In designs of this type the spout is generally difficult to rotate about the valve body because the seal must be constructed with close tolerances to prevent leaking; if the spout is made freely rotatable the seal is likely to be inefficient.

An object of the present invention is to provide a sanitary water fitting in which the outlet spout is swivellable but in which the rotary mounting will not leak.

According to the present invention there is provided a sanitary water fitting comprising a base adapted to be secured to a fixture, and a valve body which accommodates a valve mechanism and which has an outlet spout and a water inlet for connection of the fitting to a source of water, the valve body being adapted to be mounted on the base so that the valve body is rotatable relative to the base about an axis such that the outlet spout swivels on an arcuate path as the valve body rotates.

The valve body may have two water inlets for connection of the fitting to sources of hot and cold water respectively, the fitting being a mixer fitting. In one construction, the or each water inlet has connected to it a water supply pipe which is flexible.

The sanitary water fitting may be adapted to be mounted on a sanitary fixture such as a kitchen sink or a washbasin, and conveniently the base comprises a tubular manifold adapted to be removably secured to the fixture, and the valve body is adapted to connect with the manifold at a rotatable sliding joint, means being provided for removably coupling together the valve body and the manifold with a predetermined rotational frictional engagement force therebetween.

In the case where the valve body carries an operating member movable with respect to the valve body thereby to operate the valve mechanism, the predetermined rotational frictional engagement force at the joint between the valve body and the manifold is preferably such that the force required to rotate the valve body is greater than the force required to actuate the operating member. Means is preferably provided whereby the force of the rotational frictional

engagement is adjustable. The flexible pipe or pipes conveniently extend through the tubular manifold.

Advantageously, the outlet spout is fixed relative to the valve body and preferably the outlet spout and the valve body are integrally formed.

The invention may be carried into practice in a number of ways but one specific embodiment will now be described by way of example with reference to the accompanying drawings, in which:—

Figure 1 shows a sanitary water fitting for a washbasin, partly in section,

Figure 2 is a cross-section taken on the line II—II in Figure 1, and

Figure 3 shows the fitting of Figure 1 illustrating the valve body rotated through approximately 90°.

Referring to Figure 1, there is illustrated a sanitary water fitting 1 which includes a valve body 4 and an outlet spout 6. As illustrated, the valve body and outlet spout are of unitary design, although other means of fabrication may be utilized, for example the outlet spout may be threadedly coupled to the valve body.

A valve mechanism, not shown, is operably mounted in the valve body 4 and is operated by a handle 5 which is movable between on and off positions.

The lower end of the valve body 4 is rotatably mounted on a base in the form of a tubular manifold comprising a cup-shaped receiving part 8 with a downwardly extending screw-threaded shank 9 for securing the fitting to the fitting shelf or ledge of the washbasin (not shown). The valve body 4 has a lower end in the form of a pivot-like trunion 7 which is located in the cup-shaped receiving part 8 to provide a joint for rotating the valve body 4 with respect to the tubular manifold about a vertical axis. The pivot-like trunion 7 is provided with diametrically formed slots 12 which extend perpendicular to the axis of rotation of the valve body 4. Diametrically opposed screw-threaded openings are formed in the upstanding wall of cup-shaped receiving part 8 to mount screws 10 therein. The screws 10 are each formed with a non-threaded end 11 of reduced diameter which nests in the respective slot 12. As will be appreciated from Figure 2, at each extreme rotary position of the valve body 4, one end of each slot 12 will abut against the end 11 of the respective screw 10 to prevent the valve body 4 from rotating beyond about 90°. The screws 10 provide adjustable means to maintain a predetermined force for rotational frictional engagement between the trunion 7 and the cup-shaped receiving part 8 forming the rotatable joint of the sanitary water fitting 1. This is accomplished by applying screw pressure against the arcuate inner wall of the slots 12 in the trunion 7 of valve body 4. It will of course be appreciated that in other constructions it would be possible to provide only one slot and one associated screw.

It will be observed from Figure 1 that the rotatable joint is not a water tight joint and does

not require seal means since the water supply connection is mounted directly to the valve body 4 and no water passes through or around the rotatable joint.

5 In the bottom of the trunion 7 there are two water inlets to which are connected respectively cold and hot water flexible pipes 13 and 14, the other ends of the pipes being coupled to cold and hot water valves 15 and 16, respectively, by
10 threaded couplings or the like. The cold and hot water flexible pipes 13 and 14 are housed within the tubular manifold and are rigidly connected to the hot and cold water inlet openings of the valve body 4. Suitable coupling means such as threaded
15 hot and cold water inlet openings formed in the trunion of the valve body 4 receive the threaded ends of the flexible pipes 13 and 14 in water tight connection as illustrated in Figure 1.

The valve body 4 is mounted in rotational
20 frictional engagement under a predetermined force with the cup-shaped receiving part 8 by adjusting the screws 10 against the pivot-like trunion 7 of the valve body 4. This will prevent the valve body 4 and the outlet spout 6 from being
25 rotated or swivelled accidentally when the handle 5 is actuated between its open and closed positions, by appropriate adjustment of the screws 10 against pivot-like trunion 7 so that the force required to rotate the body 4, thereby to swivel
30 the outlet spout 6, is greater than the force required to actuate the handle 5.

The rotatable joint or coupling is not subjected to water pressure so that there is no possibility of a water leak through the joint. The valve body 4 is
35 coupled to the flexible pipes 13 and 14 in water tight engagement so that as the valve body rotates, the flexible pipes also rotate. On rotation of the valve body 4 the outlet spout 6 is moved along an arcuate path.

40 The fitting is of simple design and can be readily installed on standard sanitary fixtures by inserting the screw-threaded shank 9 through an opening in the fixture and securing it in position by a nut 17.

45 CLAIMS

1. A sanitary water fitting comprising a base adapted to be secured to a fixture, and a valve body which accommodates a valve mechanism and which has an outlet spout and a water inlet for
50 connection of the fitting to a source of water, the valve body being adapted to be mounted on the base so that the valve body is rotatable relative to the base about an axis such that the outlet spout swivels on an arcuate path as the valve body
55 rotates.

2. A sanitary water fitting as claimed in claim 1, in which the valve body has two water inlets for connection of the fitting to sources of hot and cold water respectively.

3. A sanitary water fitting as claimed in claim 1

or claim 2, in which the or each water inlet has connected to it a water supply pipe which is flexible.

4. A sanitary water fitting as claimed in any one of claims 1 to 3, adapted to be mounted on a sanitary fixture such as a kitchen sink or a washbasin, in which the base comprises a tubular manifold adapted to be removably secured to the fixture, and in which the valve body is adapted to connect with the manifold at a rotatable sliding joint, means being provided for removably coupling together the valve body and the manifold with a predetermined rotational frictional engagement force therebetween.

5. A sanitary water fitting as claimed in claim 4, in which the valve body carries an operating member movable with respect to the valve body thereby to operate the valve mechanism, the predetermined rotational frictional engagement force at the joint between the valve body and the manifold being such that the force required to rotate the valve body is greater than the force required to actuate the operating member.

6. A sanitary water fitting as claimed in claim 4 or claim 5, in which means is provided for adjusting the force of the rotational frictional engagement between the valve body and the manifold.

7. A sanitary water fitting as claimed in any one of claims 4 to 6 when dependent on claim 3, in which when the fitting is assembled the or each flexible supply pipe extends through the tubular manifold.

8. A sanitary water fitting as claimed in any one of claims 4 to 7, in which the valve body includes a pivot-like trunion adapted to be rotatably secured in the manifold.

9. A sanitary water fitting as claimed in claim 8, in which the pivot-like trunion includes at least one slot extending perpendicular to the axis of rotation, the slot extending an arcuate distance of about 90° to provide, in co-operation with an abutment, stop means operative at each end of the slot so as to prevent the valve body from being rotated beyond about 90°.

10. A sanitary water fitting as claimed in claim 9, in which there is provided at least one screw which is threadedly mounted on the manifold so as to project into the or a respective slot in the trunion to provide the said abutment, the screw contacting an arcuate wall of the slot to provide an adjustable rotational frictional force engagement between the valve body and the manifold.

11. A sanitary water fitting as claimed in any one of the preceding claims, in which the outlet spout is fixed relative to the valve body.

12. A sanitary water fitting as claimed in claim 11, in which the spout is integrally formed with the valve body.

13. A sanitary water fitting substantially as specifically described herein with reference to the accompanying drawings.